FIG. 1

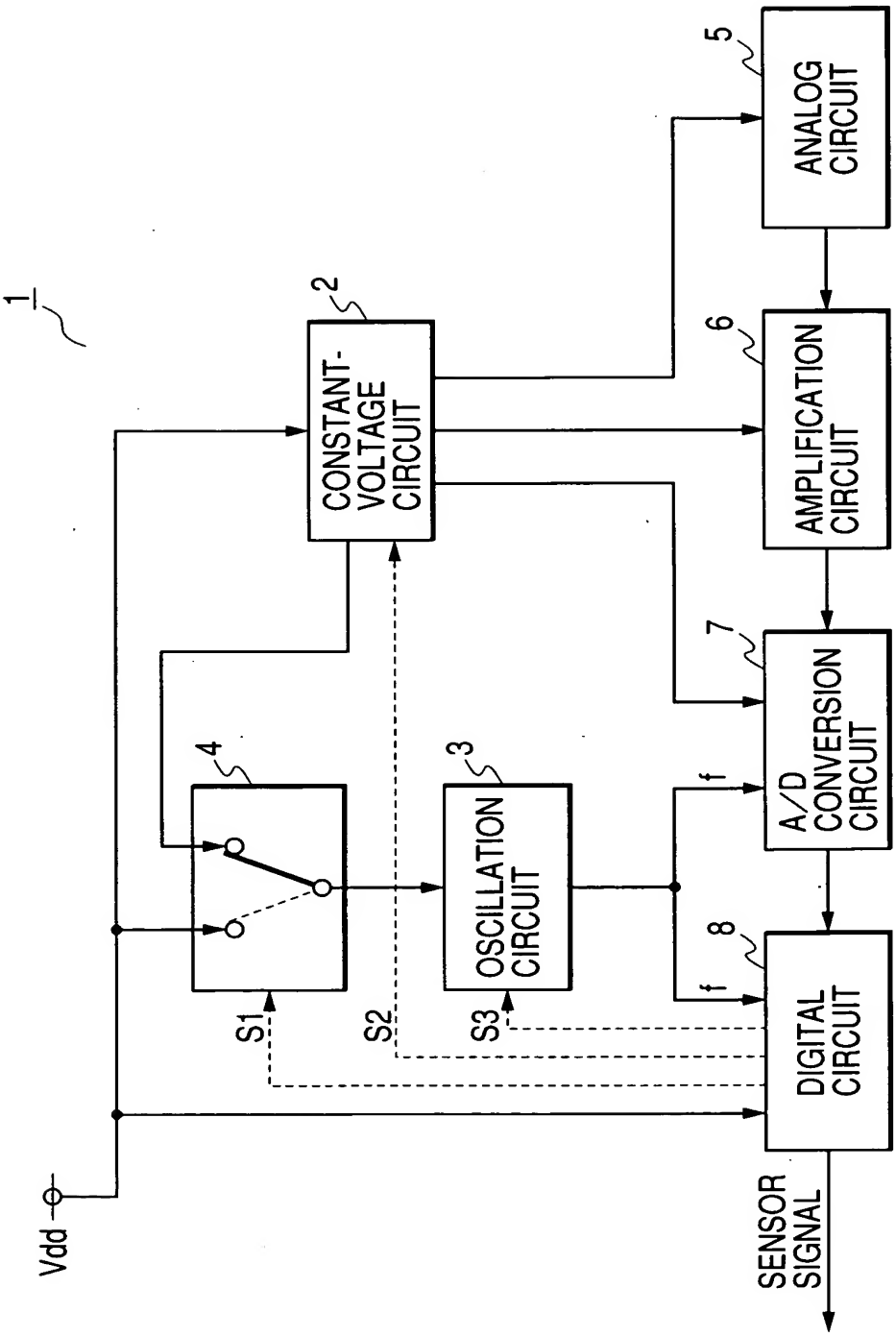

1
2
CONSTANT-VOLTAGE CIRCUIT
3
OSCILLATION CIRCUIT
4
5
ANALOG CIRCUIT
6
AMPLIFICATION CIRCUIT
7
A/D CONVERSION CIRCUIT
8
DIGITAL CIRCUIT
Vdd
S1
S2
S3
f
f
SENSOR SIGNAL

FIG. 2

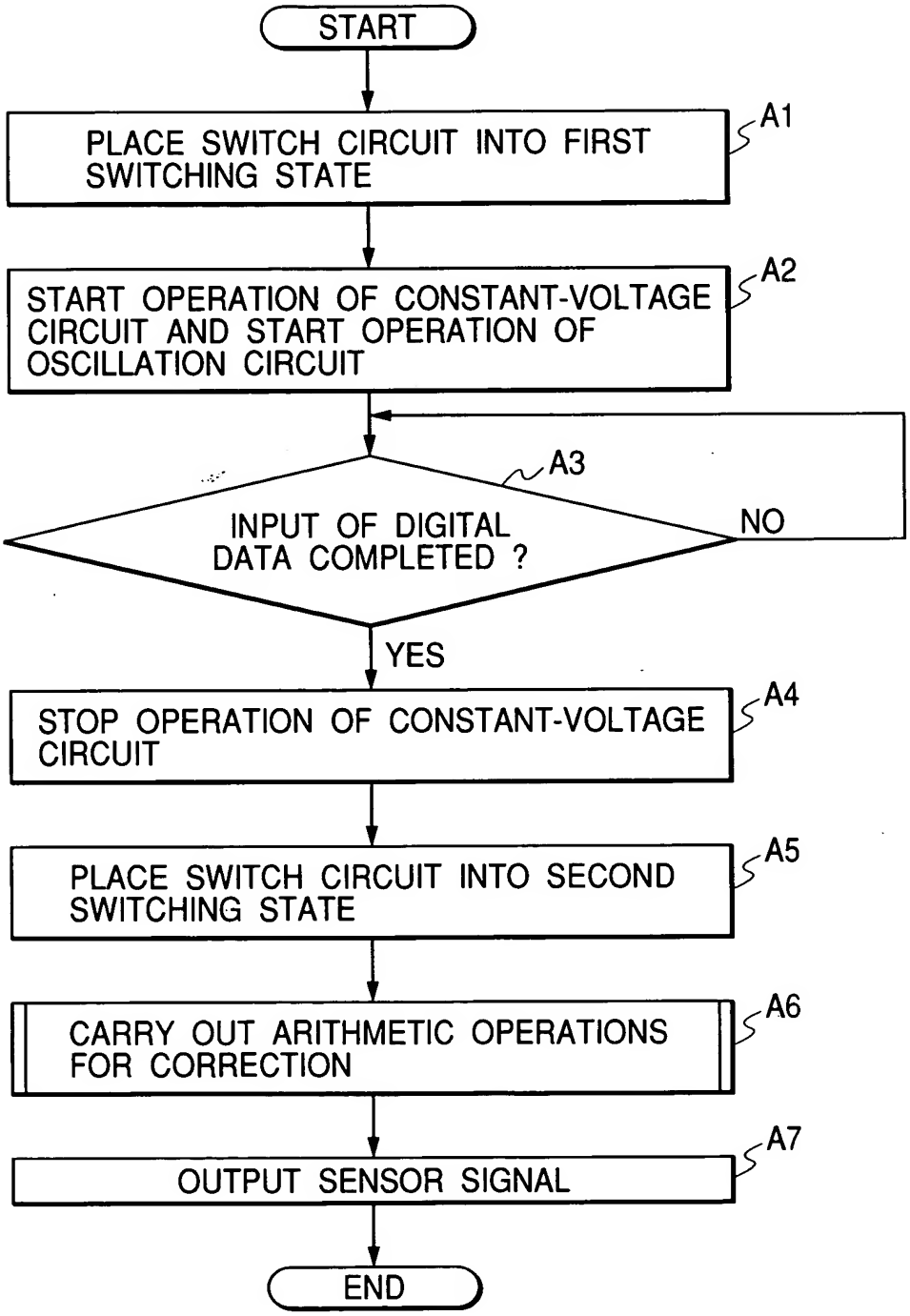

START
PLACE SWITCH CIRCUIT INTO FIRST SWITCHING STATE
A1
START OPERATION OF CONSTANT-VOLTAGE CIRCUIT AND START OPERATION OF OSCILLATION CIRCUIT
A2
A3
INPUT OF DIGITAL DATA COMPLETED ?
NO
YES
STOP OPERATION OF CONSTANT-VOLTAGE CIRCUIT
A4
PLACE SWITCH CIRCUIT INTO SECOND SWITCHING STATE
A5
CARRY OUT ARITHMETIC OPERATIONS FOR CORRECTION
A6
OUTPUT SENSOR SIGNAL
A7
END

FIG. 3

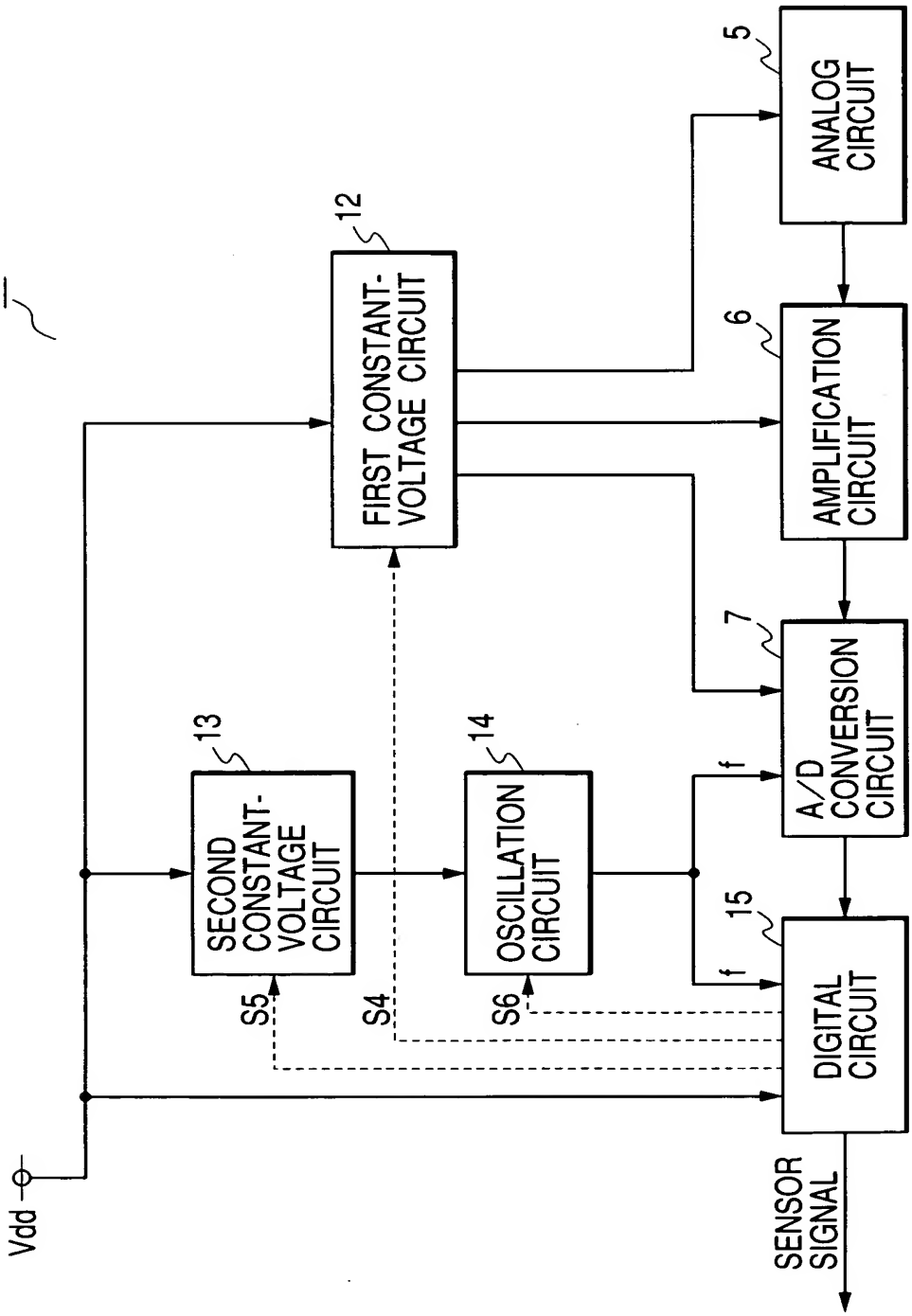

11
12
FIRST CONSTANT-VOLTAGE CIRCUIT
13
SECOND CONSTANT-VOLTAGE CIRCUIT
14
OSCILLATION CIRCUIT
15
DIGITAL CIRCUIT
5
ANALOG CIRCUIT
6
AMPLIFICATION CIRCUIT
7
A/D CONVERSION CIRCUIT
Vdd
S4
S5
S6
f
f
SENSOR SIGNAL

FIG. 4

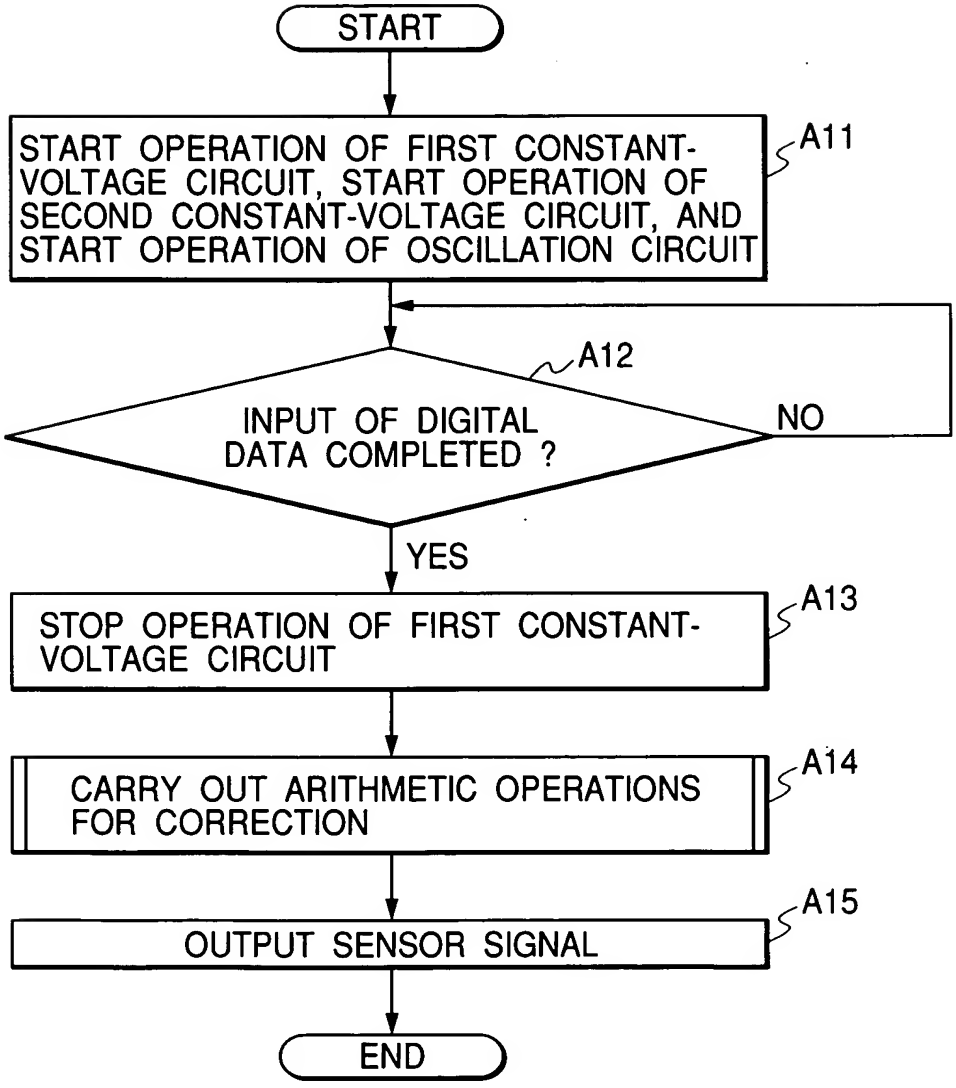

START
START OPERATION OF FIRST CONSTANT-VOLTAGE CIRCUIT, START OPERATION OF SECOND CONSTANT-VOLTAGE CIRCUIT, AND START OPERATION OF OSCILLATION CIRCUIT
A11
A12
INPUT OF DIGITAL DATA COMPLETED ?
NO
YES
STOP OPERATION OF FIRST CONSTANT-VOLTAGE CIRCUIT
A13
CARRY OUT ARITHMETIC OPERATIONS FOR CORRECTION
A14
OUTPUT SENSOR SIGNAL
A15
END

FIG. 5

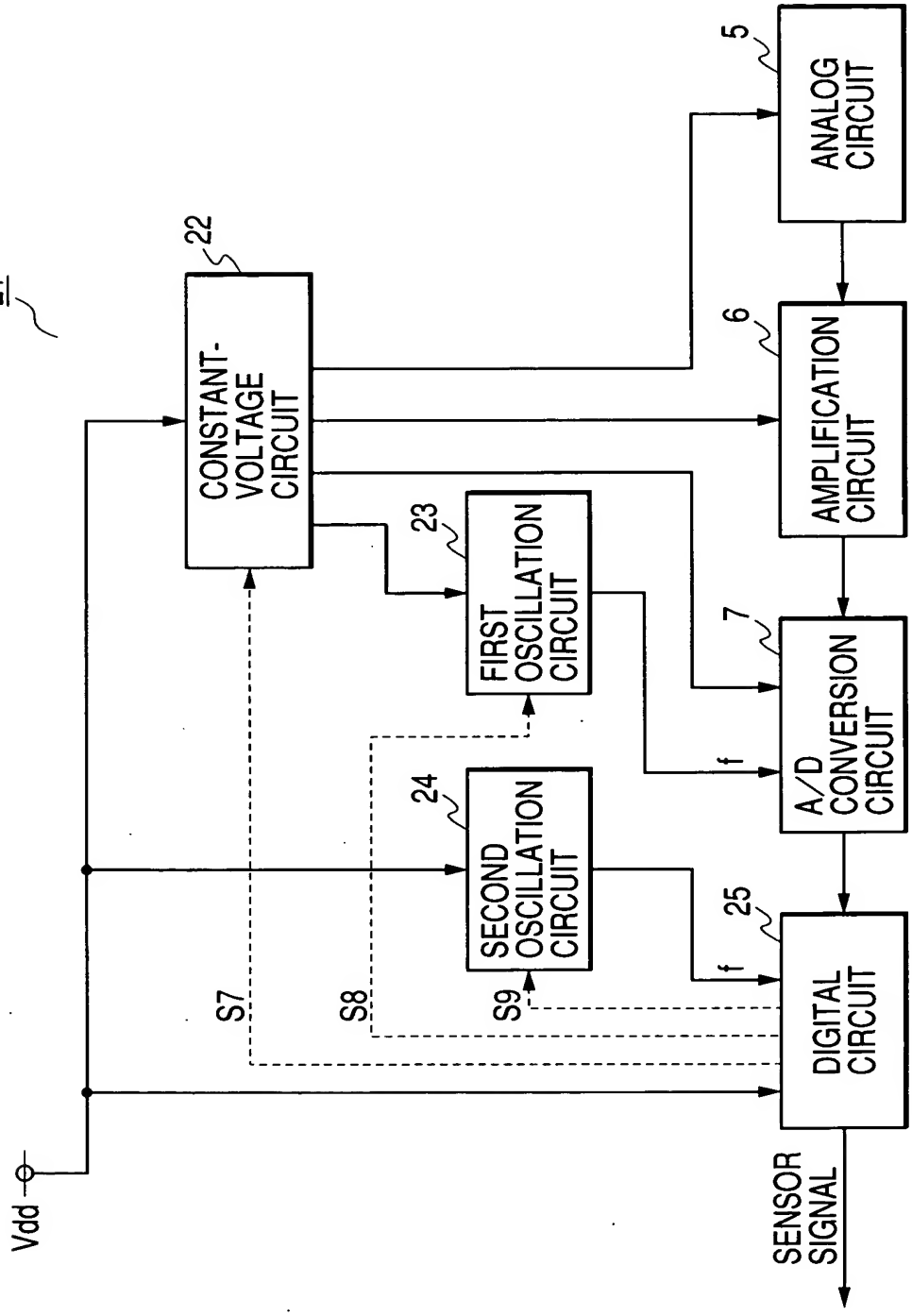
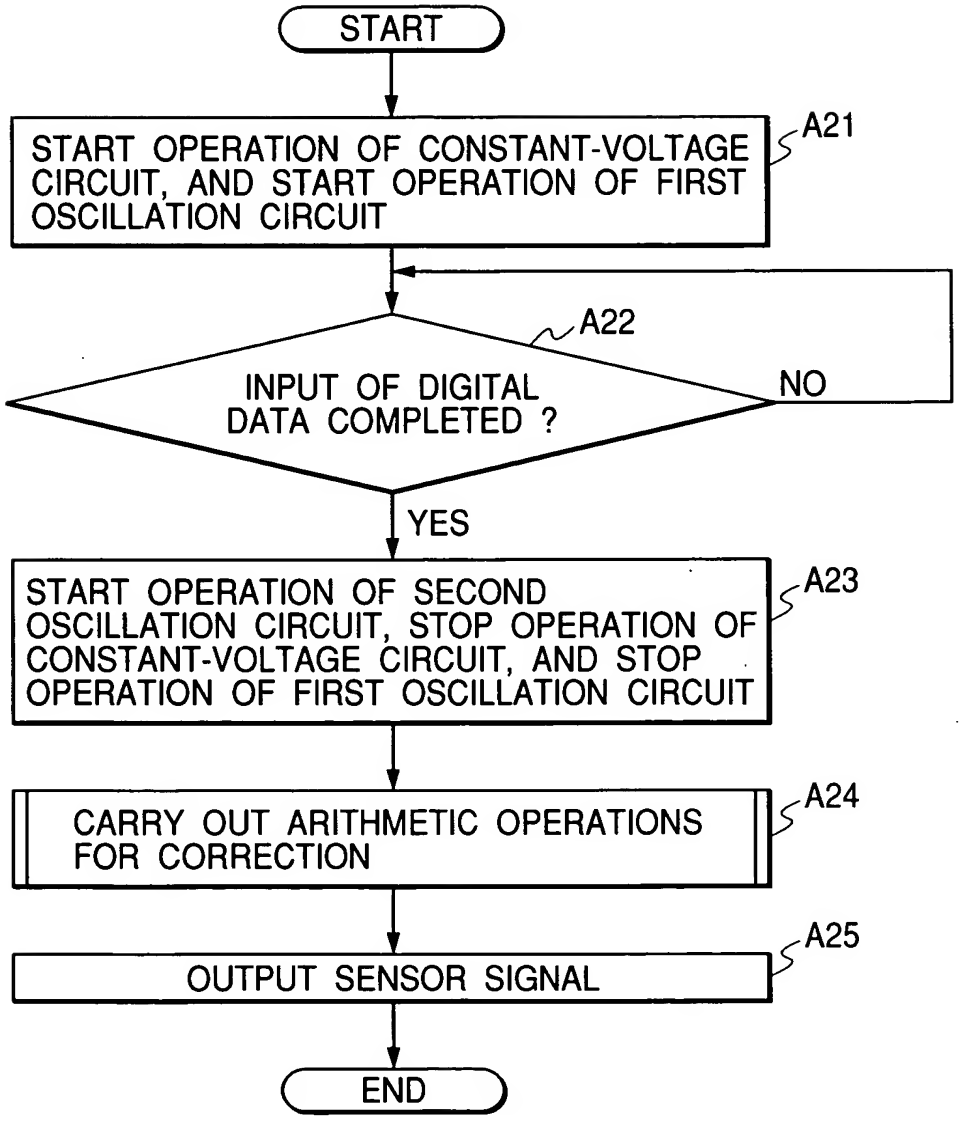

21
22
CONSTANT-VOLTAGE CIRCUIT
23
FIRST OSCILLATION CIRCUIT
24
SECOND OSCILLATION CIRCUIT
5
ANALOG CIRCUIT
6
AMPLIFICATION CIRCUIT
7
A/D CONVERSION CIRCUIT
25
DIGITAL CIRCUIT
Vdd
S7
S8
S9
f
f
SENSOR SIGNAL

FIG. 6


START
START OPERATION OF CONSTANT-VOLTAGE CIRCUIT, AND START OPERATION OF FIRST OSCILLATION CIRCUIT
A21
A22
INPUT OF DIGITAL DATA COMPLETED ?
NO
YES
START OPERATION OF SECOND OSCILLATION CIRCUIT, STOP OPERATION OF CONSTANT-VOLTAGE CIRCUIT, AND STOP OPERATION OF FIRST OSCILLATION CIRCUIT
A23
CARRY OUT ARITHMETIC OPERATIONS FOR CORRECTION
A24
OUTPUT SENSOR SIGNAL
A25
END